FORT GORDON

U.S. Army Signal Center

MUSHROOMS

what are Mushrooms?

- Many species of fungi possess psychedelic properties and about a dozen of these grow wild in the UK. The most common is the Liberty Cap - *Psilocybin semilanceata* - (see picture), which is commonly referred to as a "Magic Mushroom". The original "magic mushroom" is in fact another - not so common - hallucinogenic fungi seen in the UK called Fly Agarics (*Amanita Mascara*). This is easily recognizable as a red toadstool with white warts, often depicted in cartoons as the cute red and white spotted variety from "Alice In Wonderland".

Medicinal uses for Mushrooms

- None in modern medicine, although fungi of various sorts have been used as medicines and for ceremonial/spiritual purposes in cultures across the world for thousands of years.
  As far as can be judged, their use was largely restricted to shamans, etc., who may have used hallucinogenic fungi to enter a trance or see visions in order to fulfill a role within their community.

Use/Abuse of Mushrooms

- Psilocybin mushrooms grow after rain in late summer and autumn in the UK. They are often found on old cow pats in cattle grazing areas - which may or may not say something about their “magical” value.
- Fly Agarics grow in or near woodland.
- Those who chose to ingest mushrooms eat them fresh - immediately after picking - or preserve them by drying to be eaten later. Some people brew a 'tea' made from them or use them in cooking.
- Mushrooms were popular as an hallucinogenic drug in the “hippie” culture of the late 1960's and 1970's. They have retained their popularity partly because they are seen as a “natural” high, and also because they cost nothing to obtain.

How Do They Work?

- The primary active ingredients of **Psilocybin** mushrooms are psilocybin and psilocin - and to a lesser extent baeocystin and norbaeocystin. These chemicals bear a close resemblance to the neurotransmitter serotonin and the hallucinogenic effect of psilocybin mushrooms is probably caused by their interference with the normal actions of brain serotonin.
  It's likely that LSD (which is synthesized from ergot - a fungus that grows on grains) works in a similar fashion.
- **Fly Agarics** contains mycoatropine and Muscatine, together with two other less poisonous compounds, muscimol and ibotenic acid. These are seriously nasty chemicals which basically irritate the brain and have an hallucinogenic effect. They also induce sweating and can cause

What effect do they have?

- **Psilocybin**

  The effects of Psilocybin mushrooms are similar to a mild LSD “trip”, that is, they alter the perception of sight, sounds, etc., and change the feelings and thoughts of the user. They take effect after about 30-45 minutes, peaking after about 3 hours, and last for around 4 or 5 hours altogether.

- At low doses, euphoria, a sense of well being, and a feeling of detachment occur, along with some mild distortion of perception. There is less dissociation than occurs with LSD and so less chance of a “bad trip” as the user still has some control over his or her thought processes. Nevertheless, the effect of psilocybin mushrooms is unpredictable and depends on the setting in which they are taken and the mental or emotional state of the user.
- At high doses visual distortions and vivid hallucinations can take place.
- Most mushrooms containing psilocybin cause some nausea and other physical symptoms before the mental effects take over

What effect do they have?

Fly Agarics

- This hallucinogenic agents in this fungus are more toxic that those found in psilocybin and the intensity of the experience is higher. After the mushroom is eaten, individuals often vomit and may have a severe headache for a short time. The heart rate speeds up and the pupils dilate.
- The mental effects resemble a state similar to extreme alcoholic intoxication, with the added complication of vivid hallucinations. Bizarre behavior of users is common, ranging from non-stop talking or shouting to complete unawareness of their surrounding.
- The duration of the hallucinogenic experience depends on the amount of mushrooms eaten and can range from 7-8 hours to 2 days. The user usually then falls into a deep sleep and on waking will not remember his or her behavior while 'high'.

The "magic" myth

- “Magic mushrooms” haven't got any magic! In fact, their alarming effects are the nasty, brutish - and sometimes not so short - result of disruptive, chemical interference with the body's nervous system.

Consequences of Using Mushrooms

- The idea that because fungi are living things they provide a “natural high” is crazy. The active constituents of these mushrooms are dangerous chemicals. Opium is a natural substance - it's highly addictive. Belladonna (D
  nightshade) is natural - it can k
- Natural <u>does not</u> mean harmle

Risk to Physical Health

Psilocybin

- Psilocybin mushrooms are not poisonous in the sense that they can kill, and no lethal dose is known. However, some people react to them with vomiting, nausea and stomach pains. No serious long-term physical damage to health has been reported, although it must be noted that no research has been carried out to assess the effects of frequent use. The main risk to health from eating psilocybin mushrooms comes from mistaken identity - collecting and eating poisonous varieties of mushrooms instead of the ones possessing the desired hallucinogenic properties. Some of these other fungi can cause death or permanent liver damage within hours of ingestion. Distinguishing hallucinogenic mushrooms from poisonous ones can be very difficult and sometimes almost impossible.
- Risks to physical safety are likely to result from an individual's behavior while under the influence of psilocybin. This may include irresponsible behavior which could lead to an accident or injury.

Risk to physical health

Fly Agaric

- Fly Agaric is poisonous as well as being hallucinogenic. Its toxicity is mainly due to the presence of mycoatropine which causes disorders of mental activity. The content of another poisonous agent, muscarine, is relatively small. Permanent physical damage or even death can be caused by eating them.
- Fly Agaric itself is moderately toxic, but it should be remembered that species from the Amanita genus cause 95 percent of all deaths from mushroom poisoning. Fly Agaric's closest relatives are *Amanita virosa* (**Destroying Angel**) and *Amanita phalloides* (**Death Cap**) - the names say it all.
- So, consuming Fly Agaric can be very dangerous for an individual's physical safety as so much depends on correct identification of the fungi. If a person is collecting mushrooms to eat for their hallucinogenic properties, one mistake could be their last mistake. Death by Amanita poisoning is reportedly an excruciating way to die. Even more horrifying is that the fatal symptoms only start to appear 2-3 days after eating the mushrooms - and by then it's too late.

Tolerance and Dependence

- As with LSD, tolerance to the active ingredients in hallucinogenic mushrooms develops quickly, and the day following a mushroom “trip,” it may take twice the original dose to produce the same effect. There are no significant withdrawal symptoms from hallucinogenic mushrooms and no physical dependence appears to take place. There may be a strong desire to repeat the experience, which could be indicative of some degree of psychological dependence.

Legal Consequences

- The possession and use of hallucinogenic mushrooms in their natural form is not illegal in the UK. However, if they are prepared in any way, i.e. dried, crushed, cooked or brewed into tea, they then become a Class A drug. The penalties for possession or supply of a Class A drug are severe.

UNITED STATES ARMY CENTER FOR SUBSTANCE ABUSE PROGRAMS

For more Information Contact:
Your Unit Prevention Leader or
The Fort Gordon ASAP
791-4178 / 3674